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10/021,228	12/11/2001	Ikuo Tsukagoshi	80398.P464	1136

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EXAMINER
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PHILIPPE, GIMS S

ART UNIT	PAPER NUMBER
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2621

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/021,228

Applicant(s)

TSUKAGOSHI ET AL.

Examiner

Gims S. Philippe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

1. Applicant's amendment received on June 14<sup>th</sup> 2007, in which claims 1, 9, 10, 15, 16, and 25 were amended, has been fully considered and entered, but the arguments are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida et al. (US Patent no. 6462744) in view of Pearlstein et al. (US Patent no. 6,385,248).

As for Claims 1, 3, 10 and 12, Mochida et al. teaches a process in decoding an MPEG stream by first detecting what kind of frame is composed by the picture data. When the picture data is an I or P picture the data is sent to a host buffer memory. If the picture data is a B picture then the data reduction control unit determines which slice includes macroblocks that correspond to an invisible area. The macroblocks that correspond to the invisible area is then omitted from being sent to the host buffer

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memory with I and P pictures (Column 14, line 54 to Column 15, line 11). This host buffer memory is then sent to the decoding unit (See Figure 9). Mochida et al. also teach scaling the only predetermined portions of each B frame (See col. 2, lines 48-67, col. 18, lines 51-56 and SRC of fig. 8) the scaling comprising vertical filtering (Column 11, lines 20-30 and fig. 8, vertical filter 73).

It is noted that although Mochida suggests determining the B-frame portions based on picture quality, it is silent about determining the predetermined portion by picture resolution and scaling the I and P frame based on the only predetermined portions of the B-frame as specified in the amended claims.

However, Pearlstein determines predetermined frame portions by display resolution, and scales the I and P frame based on the only predetermined portions of the B-frame while providing vertical filtering (See Pearlstein col. 8, lines 41-54, col. 15, lines 64-67, col. 16, lines 1-2, and col. 16, lines 53-63).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Mochida's decoding of its trimming method by incorporating Pearlstein's step of determining predetermined frame portions by display resolution, scaling the I and P frame based on the only predetermined portions of the B-frame while providing vertical filtering. The motivation for performing such a modification in Mochida is to provide significant hardware savings and to avoid error propagation as taught by Pearlstein (See Pearlstein col. 12, lines 49-59).

**Note:** The applicant should note that image quality can be affected by the resolution as well as noise. In other words, if an image data forming a large image is cut out or the resolution is lowered, the picture quality is significantly hampered. Thus, when Mochida looks at the picture quality in selecting the B frames, it is not teaching away from the claimed limitations.

As for Claims 2 and 11, Mochida et al. teaches a predetermined area that the on screen display is going to cover (Column 4, lines 13-25).

As for Claims 4 and 13, Mochida et al. teaches decoding the only the predetermined portions of each B frame by determining which slice includes macroblocks that correspond to the invisible area by referring to the slice start code (SSC) included in each slice and the location information of the invisible area (Column 14, line 54 to Column 15, line 11). The SSC in a slice header shows the vertical position of the slice (Column 6, lines 64-67).

4. Claims 5, 9, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida et al. (US Patent no. 6,462,744) in view of Pearlstein et al. (US Patent no. 6,385,248) as applied to claims 1-4 and 10-13 above, and further in view of Reitmeir et al. (US Patent no. 4,622,577).

As per claims 5, 9, 14 and 15, most of the limitations have already been addressed in the above rejection of claims 1-4 and 10-13.

Although Mochida et al. fails to teach skipping decoding until a left most position of the vertical slice is met, then decoding until the right most position of the vertical slice is met and then stopping decoding when this right most position is met for a specific horizontal slice, it should be noted that the OSD'S of Mochida et al. could be in different positions, however, Reitmeier et al. does (Column 2, lines 37-46). Reitmeier et al. teaches a method to convert from a 5:3 aspect ratio to a 4:3 ratio. Since invisible areas are known to be on the left and right sides of a center display, it would have been obvious to one of ordinary skill to stop decoding during invisible areas of B frames to reduce the processing load.

5. Claims 16, 21, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida et al. (US Patent no. 6,462,744) in view of Pearlstein et al. (US Patent no. 6,385,248) as applied to claims 1-4 and 10-13 above, and further in view Boyce et al. (US Patent no. 5,614,952).

As for Claim 16, most of the limitations of this claim have already been addressed in the above rejection of claims 1-4 and 10-13. Mochida et al. teaches a first decoder (21 in Figure 7) which includes a skip judge (111 note where invisible data is either kept or discarded) to instruct units to skip decoding of portions of a B frame (Column 14, line 54 to Column

15, line 11). Mochida also teaches the VLD unit (column 10, lines 45-54).

Although Mochida et al. fails to specifically teach a second decoder which receives information from the first decoder and controller, Boyce et al. teaches a second decoder for decoding PIP (Figure 4). The second decoder would have to have signals sent from a controller for the location and size of the PIP and from the first decoder to determine where the OSD will appear and therefore skip decoding of B frame positions. Therefore, it would have been obvious to one of ordinary skill to combine teachings to add a second low cost decoder to allow for the enhanced function of PIP.

As for Claim 21, Mochida et al. fails to teach performing an inverse discrete cosine transform (IDCT) on the decoded portions of the B frame and then stores the data to frame memory, but Boyce et al. does (Column 16, line 25 to Column 17, line 21).

In reconstructing the decoding data it is considered obvious to of ordinary skill to pass the decoded data through an IDCT before the image is produced which is a well known step in decoding.

As for Claim 22, most of the limitations have been addressed in the above rejections. Although Mochida et al. fails to teach a macro block syntax parser, Boyce et al. does. teach a preparser used to discard amplitude symbols for each macroblock when the number of amplitude symbols exceeds a maximum preselected number per macroblock. When no information is discarded then the amplitude symbols are below

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the preselected amount (Column 3, lines 12-27). Since this preparser is only detecting whether the video stream is above or below the macro block layer it would have been obvious to one of ordinary skill to add a preparser or other means to detect whether the video stream is above or below the macro block layer.

As for Claim 25, many of the limitations have been addressed in the above rejections. Mochida et al. teaches a video stream including I, P and B frames and a video decoder that only decodes predetermined portions of each B frame of the video stream, but fails to specifically teach the demultiplexer to receive and extract information in a layer of the video stream before the video decoder.

It would be apparent that the information to be decoded in the invention by Mochida et al. would require passing through a demultiplexer before being decoded, but Boyce et al. does teach the use of this demultiplexer (Column 5, lines 44-52).

Since the data stream must be converted into a format to be decoded it would have been obvious to one of ordinary skill to place a demultiplexer before the decoder for the purpose of formatting the data stream correctly.

Mochida et al. and Boyce et al. fail to specifically teach a digital to analog converter to convert the video signal from the video decoder to an analog signal to be displayed on a display device. Since many display devices require an analog input from the decoded video signal it would have been obvious to one of ordinary skill to convert the video



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signal to an analog or digital video signal for either use the particular display device requires. (Official Notice)

6. Claims 6, 17-20, 23 and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida et al. in view of Pearlstein (US Patent no. 6,385,248) and of Reitmeier et al. and in further view of Boyce et al.

As for Claims 6, 7, 17-20, 23 and 26-33, the limitations of these claims have been addressed in the above rejections of claims.

7. Claims 8, 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida et al.

Mochida et al. teaches in the Background of his invention the use of MPEG2 as the video stream. Although Mochida et al. does not specifically teach the use of MPEG2 as the video stream in his invention it would have been obvious to one of ordinary skill to assume from what he put in his background that the MPEG format he used in his invention was or could have been MPEG2. (Official Notice).

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dastouri Mehrdad can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Gims S Philippe  
Primary Examiner  
Art Unit 2621

GSP

August 28, 2007